

Brain develops in waves

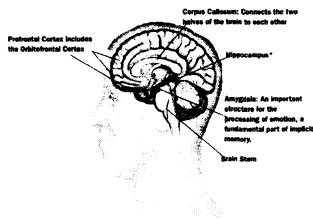
- First three years, waves of synaptic overproduction followed by pruning of unused synapses (Chugani, 1998; Teicher et al., 2002).
- Waves of growth are in different parts of brain at different times.
- Wiring depends on patterned, repetitive stimulation (Perry & Szalavitz, 2007).
- What is learned at these ages cannot be "unlearned."

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Pattern of "waves"

- Development
Bottom – up
- Processing
Bottom-up
- Higher systems
build on lower
ones
- Patterned,
repetitive
stimulation

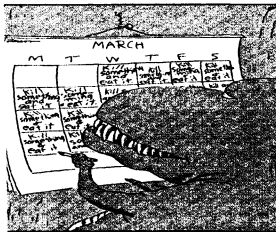


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"Reptilian Brain" (LeDoux, 1991)

- 0-4 months.
- Brain stem.
- Basic resting state.
- Godzilla!



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Results of repeated exposure to violence: in utero - 4 months

- Infant's nervous system is "tuned up" – sleep disturbance, difficulty feeding, high heart rate, fussy, colicky (Rice & Groves, 2005).
- More difficult to soothe, less gratifying. More potential for infant abuse.
- Poor weight gain (Knapp, 1998).
- With domestic violence - attachment to *mother* becomes disorganized – infant experiences *mom* as dangerous.

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"Mammalian Brain" (Lambert, 2004)

- 4- 9 months.
- Limbic system.
- Regulation of emotion.
- Basic sense of self



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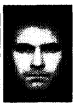





Results of traumatic care : 4-12 months

- Child wires in predominant maternal affect -depression, aggression, fear.
- Clingy behavior (fears departure of attachment figure), terror of strangers.
- Amygdala becomes hypersensitive and easily irritated. More aggressive responses to stimuli.
- Responds to even neutral faces with fear/aggression.

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Which does the child see?

 Neutral	 Anger	 Disgust	 Fear
 Joy	 Sadness	 Surprise	

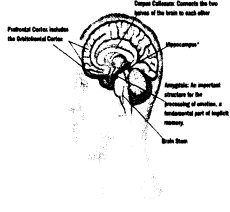
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"Human Brain"

Cortex:

- self-awareness
- planning
- explicit memory
- inhibition
- verbal mediation




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Right orbitofrontal region:
(Squire, 1994)

The "Mother Center"

- Changes throughout life, but experience-dependent window is 10– 18 months.
- Nervous system center for attachment.
- Alteration of heart rate and aggression based on maternal response.
- Adjustment and correction of emotional responses based on relational security.



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Results of repeated exposure to violence: 10 – 18 months

- Presence of mom *heightens* arousal.
- If relational security is low, child cannot adjust emotional reactions.
- Core sense of self as unloveable, ashamed.
- Poor sense of boundaries – touches or moves about aimlessly. Little sense of safe base so gets into physical trouble.

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Results of damaging care: 18 – 36 months

- Little capacity to regulate internal arousal based on external demands;
 - Toilet training is delayed
 - Little delay in gratification or frustration tolerance.
 - Demands for immediate satiation of hunger or thirst .
 - Disturbed sleep/wake cycle.
- Destructive of objects.
- Harmful to pets.

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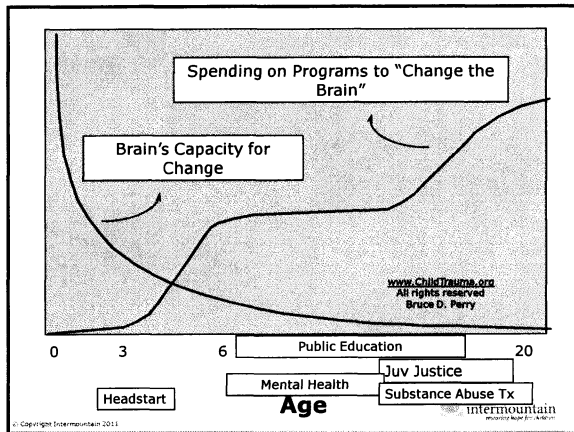
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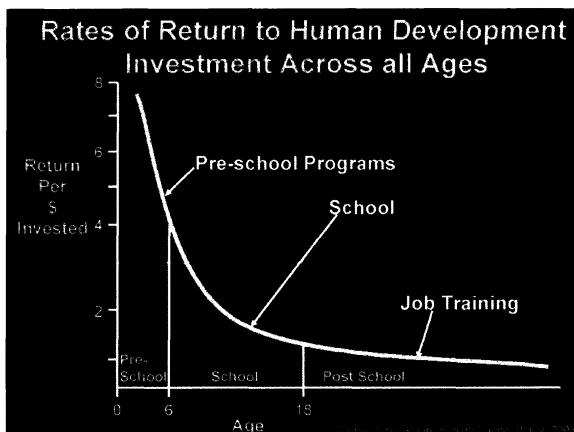
Relational violence, first 3 years

- Maternal relationship compromised. (Rice & Groves, 2005).
- Emotion, attention, safety, frustration tolerance, self- concept, self-regulation (sleep, appetite, toileting) all potentially affected. (Rice & Groves, 2005)
- Alteration of intellectual potential. (Koenen et al., 2003)
- If domestic violence is severe, frequent and in proximity to infant, infant responds as if it *were happening to him*. (Knapp, 1998)

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The building blocks

- What began in those early years carries on in school..
- Child is
 - Less able to concentrate
 - Poor boundaries
 - More aggression
 - Poor peer relationships
 - More impulsivity



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Summary

- Children exposed to chronic abuse and sexual violence "wire -in" the emotional experience
- This can occur in domestic violence, even if they were not physically harmed.
- This alters how they interpret subsequent events, reacting to neutral events as dangerous.
- They are dysregulated in all spheres.
- Have little sense of safety in the presence of adults.

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What if we do nothing?

- Being abused and neglected as a child increased arrest as a juvenile by 59% (Widom & Maxfield, 2001).
- 75% of perpetrators of child sexual abuse were sexually abused as children (Romano & DeLuca, 1997).
- Exposure to violence in childhood effects not only emotional health but adult physical health as well; ACE studies (Felitti, 2002; Anda et al., 2005).

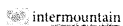
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Can we just move the child to a "sunnier window"?

- The more moves, the worse the outcome. (Taussig et al, 2001).
- Children placed after 1 year behave as if they do not need parents (Dozier, 2005).
- *Foster care itself is correlated with worse outcome* (Lawrence, et al, 2006).

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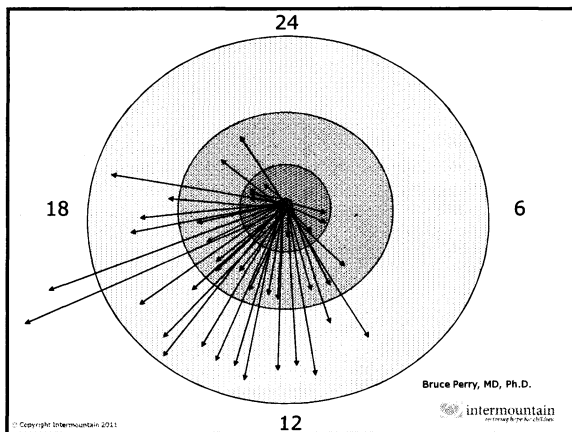


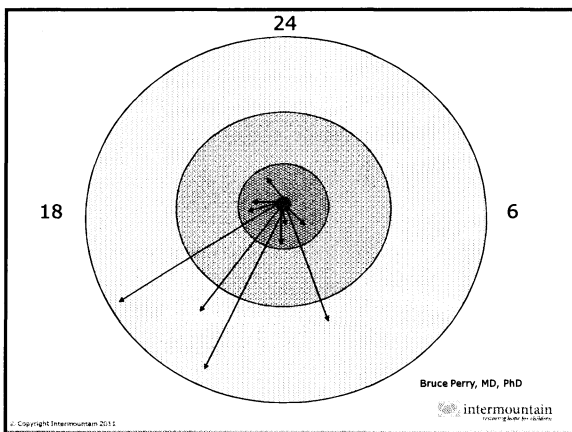
Moving the child

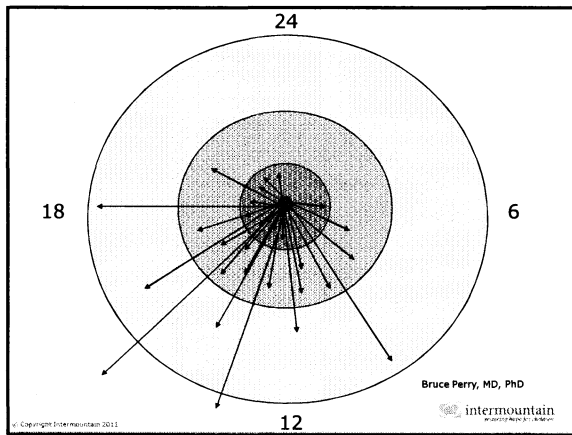
- By the age of 12 – 18 months, attachment figure has consolidated, and so has the trauma.
- Attachment can change after 1-2 years in new relationship, but it requires adoptive/foster parent to *read through* child's cues.
- Only about a 50% success rate in foster/adoptive families of foreign adoptees (O'Connor et al., 2003).

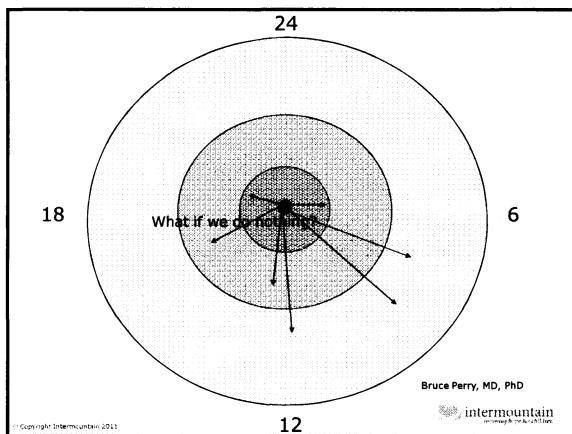
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Summary

- Chronic exposure to adversity (e.g., physical, sexual or verbal abuse, parental mental illness, neglect due to drug use, witnessing domestic violence) permanently alters the way the child sees and responds to the world.
- Early experiences with abuse trigger primitive parts of the brain inaccessible to reason.
- Children cannot unlearn what has been learned in first 3 years. Can learn new but it takes patterned, repetitive response.

Useful websites

- www.familyrefugecenter.com
- illinoisearlylearning.org/askanexpert/stephens2009
- www.zerotothree.org.
- www.childtrauma.org.

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Questions?



"Mr. Osborne, may I be excused? My heart is full."

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